

# **A Brief History of Bear Valley National Wildlife Refuge**

## **1976 - 2005**

U.S. Fish & Wildlife Service  
Klamath Basin National Wildlife Refuge Complex  
Division of Fire Management  
Tulelake, California



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## Overview

The March 1978 decision to list the bald eagle (*Haliaeetus leuccephalus*) as endangered in California and threatened in Oregon sounded an alarm for habitat preservation. The Klamath Basin, spanning the south central Oregon and north eastern California state boundaries, was recognized as a major wintering and roosting area for the eagles, along with the hundreds of thousands of migratory birds and waterfowl it already supported. Just north of the state boundaries, sandwiched between the small communities of Worden and Keno, Oregon, resided a small timbered valley some few thousand acres in size. Biologists recognized this valley for its vitality as hundreds of bald eagles would annually make their winter residence within and travel daily to nearby wildlife refuges for hunting and feeding. Through surveys and studies these same biologists determined the Bear Valley communal roost constituted one of the most important and concentrated eagle roosts in the country.

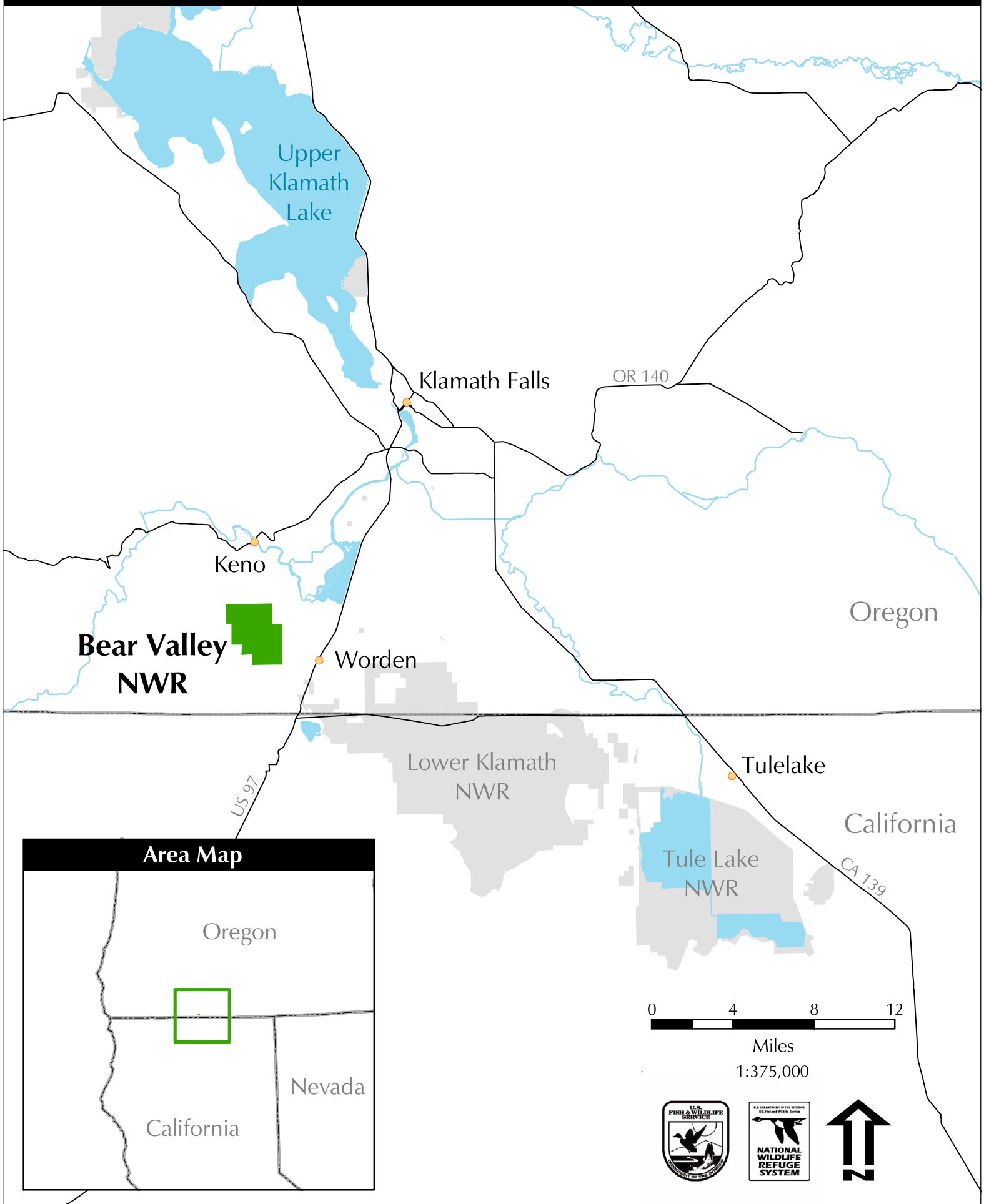
Action to acquire and protect the fragile area started immediately as an impending timber sale in the core area of the identified roost was a mere few months from implementation. Originally slated to encompass more than 5,200 acres, it would take more than a decade to obtain the current 4,200 acres defining Bear Valley National Wildlife Refuge. Through condemnation, the refuge was officially established May 31, 1978. Cooperative efforts with The Nature Conservancy, The Audubon Society, U.S. Bureau of Land Management, Oregon Department of Forestry and local land owners and timber companies, allowed the U.S. Fish & Wildlife Service to complete its land acquisitions process in 1991.

Since the refuges inception, numerous studies and management programs have ensued, strengthening the quality of the roost areas and reducing catastrophic wildfire risks to refuge neighbors. Biologists determined tree species such as ponderosa pine, Douglas fir, white-fir and incense cedar had lost much of their fire resistant tolerance as result of nearly a century of wildfire suppression. These trees being vital to eagle roosting and nesting opportunities, action was mandatory to enhance, preserve and protect the area. Additional surveys and studies started in the early 1980's formed the framework for today's habitat improvement projects. To date, more than half of the refuge lands have experienced some form of fuels management, including the reduction of overgrown and unhealthy timber through selective logging, juniper tree eradication, prescribed burning, boundary protection, mechanized slashbusting and hand thinning.

Bear Valley National Wildlife Refuge is one of six component refuges of the Klamath Basin National Wildlife Refuge Complex headquartered in Tulelake, California. Managers from the Complex's biology and fire management divisions lead the improvement project efforts and cooperate closely with specialists from other Service field offices and participating agencies like the U.S. Bureau of Land Management, who share their expertise in fields such as timber sale administration.

The following provides a year-by-year timeline, highlighting some of the major projects and accomplishments Bear Valley NWR has experienced since its recognition as one of the most vital bald eagle roosts in the nation. Learn more about ongoing habitat improvement and community protection projects online by visiting <http://www.fws.gov/klamathbasinrefuges/fire>.

# Bear Valley National Wildlife Refuge Vicinity Map



## **Major Projects and Accomplishments, 1976 - 2005**

### **1976**

Several government agencies and local Audubon chapter start collecting eagle data, focusing on communal night roosts. Three major roost sites are identified on a combination of federal and private properties in extreme northern California near the Oregon border (Three Sisters on the Klamath National Forest, Caldwell Butte area in and around Lava Beds National Monument and Mt. Dome on Bureau of Land Management grounds). While most of the roost areas were on public property, a small portion of the Three Sisters roost fell on private lands, which was subsequently purchased by the National Wildlife Federation and turned over to the U.S. Forest Service for management purposes.

### **1977**

Oregon Department of Fish and Wildlife (ODFW) personnel “discover” Bear Valley roost near Worden, Oregon, a few miles north of the state border, an area generally known as being used by eagles. Roost area identified as critical due to primarily private landownership. The BLM, Oregon Department of Forestry (ODF) and The Nature Conservancy (TNC) owned a few parcels comprising minimal acreage. ODFW starts working with TNC and U.S. Fish and Wildlife Service (FWS) to acquire lands and complete Environmental Impact Assessment. Short term plan is for TNC to acquire lands with eventual ownership by FWS. Land owner within roost area began preparing for timber harvest, but was persuaded by ODFW to hold off due to eagle usage.

### **1978**

Surveys find Bear Valley most vital roost area in January and February as high concentrations of waterfowl and subsequent feeding opportunities in the area of Lower Klamath Lake attract greater number of eagles. Bald Eagle designated as threatened in Oregon and endangered in California under the Endangered Species Act. Conservation easement options offered by TNC to private landowner preparing for timber harvest are refused. Negotiations by all involved parties stagnated. FWS offered to purchase property from landowner, but was turned down. To prevent impending logging scheduled for June 1, the U.S. District Court in Portland, Oregon, condemned the property, and under provisions and authorities of the Migratory Bird Act, effectually established Bear Valley National Wildlife Refuge on May 31, 1978. FWS and participating agencies continue negotiations with other land owners and refine core and buffer roost areas.

### **1979**

Agencies continue acquiring property. TNC makes two major purchases which will protect the core roost area with a buffer zone, all of which will eventually be purchased by FWS.

ODF committed to maintaining revenue generating land base in Klamath County precludes agency from selling land to FWS. Process initiated to secure a land exchange between BLM and ODF to ensure protection of Bear Valley roost timber stands and still permit ODF timber harvest in equally viable area away from roosts. Public meeting held to explain Bear Valley NWR program and process.

### **1980**

FWS acquires two properties from TNC bringing refuge to 972 acres. Land acquisition processes continue with private land owners, timber companies and ODF/BLM exchange. First Bald Eagle Conference held in Klamath Falls, OR.

### **1981**

Lack of funding slows land acquisition program. FWS holds 972 acres, TNC has 396 acres, 1160 acres held by timber companies, 752 acres in other private holdings and 880 acres held by ODF (being considered for land exchange with BLM). First Fire Protection Contract submitted.

### **1982**

Bear Valley featured as part of CBS Sunday Morning program exploring the Klamath Basin and eagle activity. Eagle surveys and data gathering efforts continue. Formal management plans put on hold until more land acquired and proper and effective efforts can be made to manage refuge appropriately.

### **1983**

FWS acquires more property through TNC and starts first steps of master planning by establishing basic refuge objectives. Acquisition efforts continue with all involved properties.

### **1984**

Land acquisitions grow Bear Valley NWR to more than 1,700 acres. Volunteers spear eagle in and out flight counts to refuge. Fifth annual Bald Eagle Conference draws hundreds of visitors to Klamath Basin and eagle viewing at southern border of Bear Valley.

### **1985**

ODF and BLM complete land exchange, adding another 880 acres towards the final size. Studies find trees used by roosting eagles average 196.5 years.

## **1986**

Eagle habitat management plan/study undertaken by Dellasala, Anthony and Spies to provide an analysis of tree stands and vegetation in the Bear Valley communal roost area. Flight counts continue by volunteers. Public use of refuge restricted from November to April to protect roosting and nesting eagles. Limited walk-in mule deer hunting approved.

## **1987**

Eagle habitat management plan final draft completed. Refuge begins hazardous fuels reduction planning. Eighth annual Bald Eagle Conference held.

## **1988**

Refuge boundary grows to encompass 3,400 acres.  $\frac{3}{4}$  acre wildfire suppressed by ODF under contract with no threat to roost trees. Refuge plans to use prescribed fire to reduce fuel loading, reduce risk of losing roost trees and protect surrounding lands.

## **1989**

Refuge acquires 22 additional acres. Audubon Society works with FWS to secure remaining 774 acres under private ownership. Prescribed fire plans prepared for spring and fall burning. Refuge, in cooperation with U.S. Forest Service (USFS), successfully ignites 772 acres and meets most of its fuel loading and risk reduction objectives.

## **1990**

FWS and USFS complete 60 acres of prescribed burning. Fuels inventory completed.  $\frac{1}{4}$  acre lightning caused wildfire safely extinguished by ODF under contract. Nesting recorded for 20th consecutive year and eagle pair fledges two young. Kestrel monitoring study examines pesticide levels in birds.

## **1991**

Land acquisitions completed. Refuge totals 4,200 acres. Silviculturists from USFS examine health of timber stands. 240 acres prescribed burned in coordination with USFS. Bald Eagle Conference draws more than 500 participants.

## **1992**

Silviculturists determine stands are generally in good condition, but risk damage from beetle infestation and root rot. Prescribed fire and mechanical thinning recommended to promote increased forest health. Spotted Owl survey completed.

## **1993**

Two nesting pairs produce two eaglets. Environmental assessment planning continues. More than 1,300 visitors estimated to view eagle out flights from vicinity of refuge.

## **1994**

Prescribed fire planning continues. FWS works with USFS and BLM to produce silvicultural prescriptions for the roosts.

## **1995**

Bald Eagle habitat improvement project planning proposes limited commercial thinning of heavy understory trees and continued reintroduction of fire through prescribed burning. Draft environmental assessment released suggesting six alternative options. Preferred alternative calls for several commercial timber sales followed by prescribed burning.

## **1996**

Refuge releases final Environmental Assessment and Finding of No Significant Impacts (FONSI) on the *Bald Eagle Habitat Improvement Project*. Northern Spotted Owl survey completed. FWS works cooperatively with BLM project experts to mark areas of first timber sale. Three nesting pairs recorded at refuge, fledging five total eaglets.

## **1997**

Access issues delay first timber sale. Monitoring plots and habitat improvement projects continue throughout refuge grounds.

## **1998**

First timber sale begins, treating about half of the planned acreage due to infrastructure improvements and thinning limitations in place for nesting eagles. Bald Eagle Conference held in February.

## **1999**

Tree thinning contract completed. Prescribed fire initiated on previous year's thinning area, treating 40 acres of the 200 acre project site. Special Bear Valley public tour offered as part of National Wildlife Refuge Week. Timber harvest program as part of the habitat improvement project selected as a Model Project under Governor's Eastern Oregon Ecosystem Health Strategy Program.



## **2000**

Effects of silvicultural thinning report completed. Discussions focus on next treatment areas. FWS Fire Management completes 45 acres of prescribed burning. All eagle nests active.

## **2001**

Two wildfires totaling 5.2 acres, threatening roost and nesting trees, are successfully extinguished by refuge firefighters. Four eagles fledged refuge-wide. Fuels reduction planning proceeds.

## **2002**

Wildland Urban Interface Compatibility Determination/Environmental Assessment completed for hazardous fuels reduction program on 2,400 acres of refuge grounds. 1,040 acre timber sale planned and marked. Refuge fire crews and contract crews thin overgrown juniper trees and small ponderosa pines along creek. Slashbusting begins in northern reaches of refuge. Overstocked trees thinned by refuge crews near eagle nests for protection. Fire history inventorying begins. 155 acres treated with prescribed fire.

## **2003**

Six wildland urban interface fuels reduction and community protection projects completed. Slashbusting completed in northeast corner of refuge. Fire crews begin burn unit preparation. Weed management efforts implemented to slow spread of noxious plants. Three eaglets fledged.

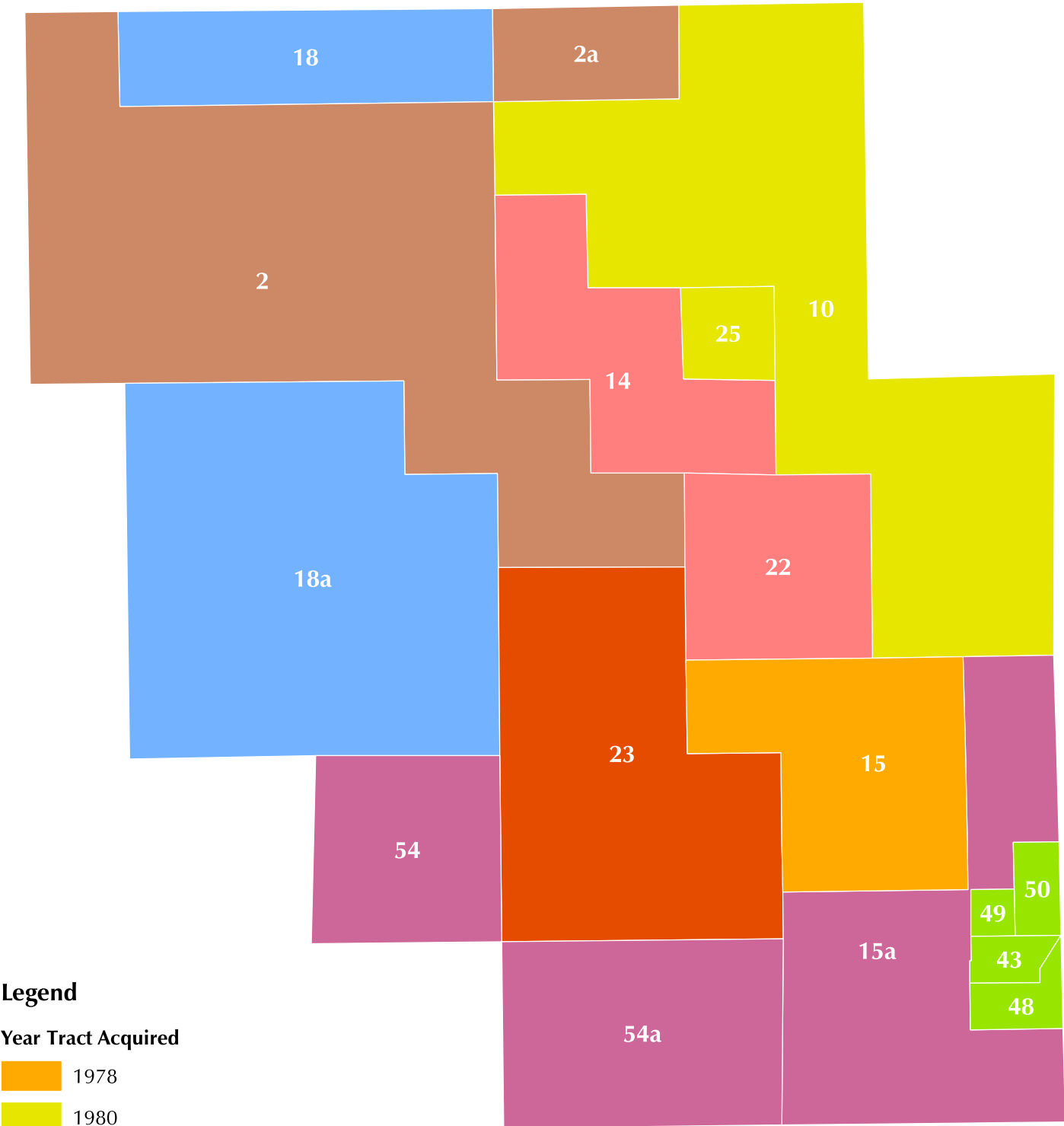
## **2004**

Logging begins on 1,040 acre timber sale project site. Fire crews use prescribed fire to remove 130 acres of piled juniper and ponderosa pine cuttings. Crews continue selective hand thinning operations and burn unit production. GIS inventory of mechanical and prescribed fire projects implemented.

## **2005**

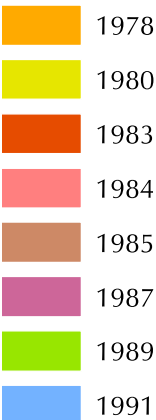
Timber sale completed. Contract crews complete mechanical hand thinning of 200 acres for fuels reduction and additional eagle nest protection. Slashbusting commences in northwestern portion of refuge. FWS fire crews ignite 70 acres of slashbusted project areas and timber sale landing piles. Fire and contract crews prepare an additional 500 acres for prescribed burning. FWS reopens public comment period for proposed delisting of Bald Eagle from the Federal List of threatened and endangered species.

# Bear Valley NWR Land Acquisition 1978 - 1991



## Legend

### Year Tract Acquired



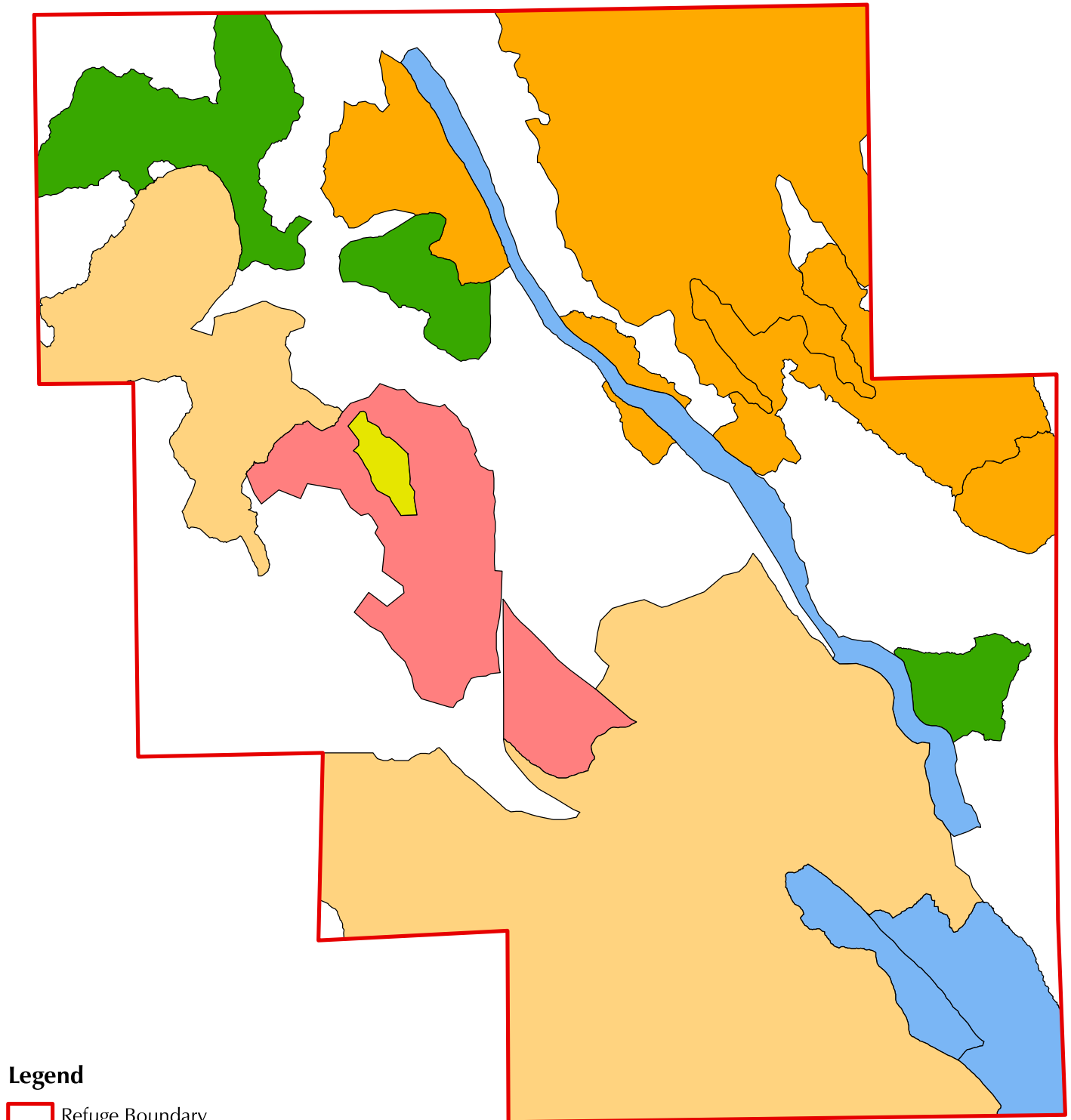
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# Bear Valley Fuels Management Projects - Year Completed



## Legend

 Refuge Boundary

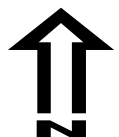
### Project Completion Year

-  1999
-  2001
-  2002
-  2003
-  2005
-  Ongoing

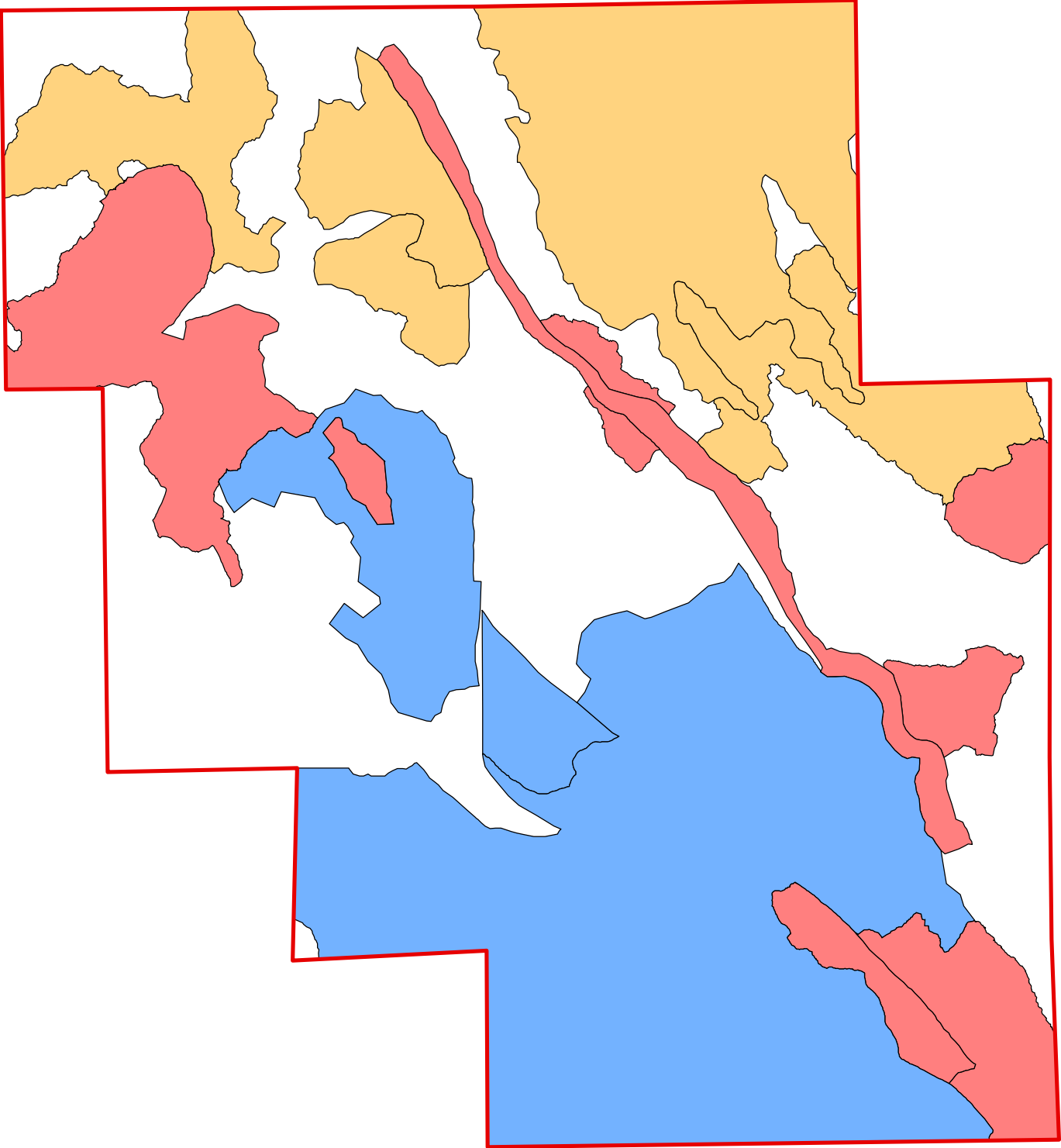
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# Bear Valley Fuels Management Projects - Treatment Type



**Legend**

 Refuge Boundary

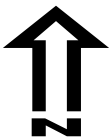
**Fuels Treatment Type**

-  Hand Thin
-  Slashbuster
-  Timber Sale

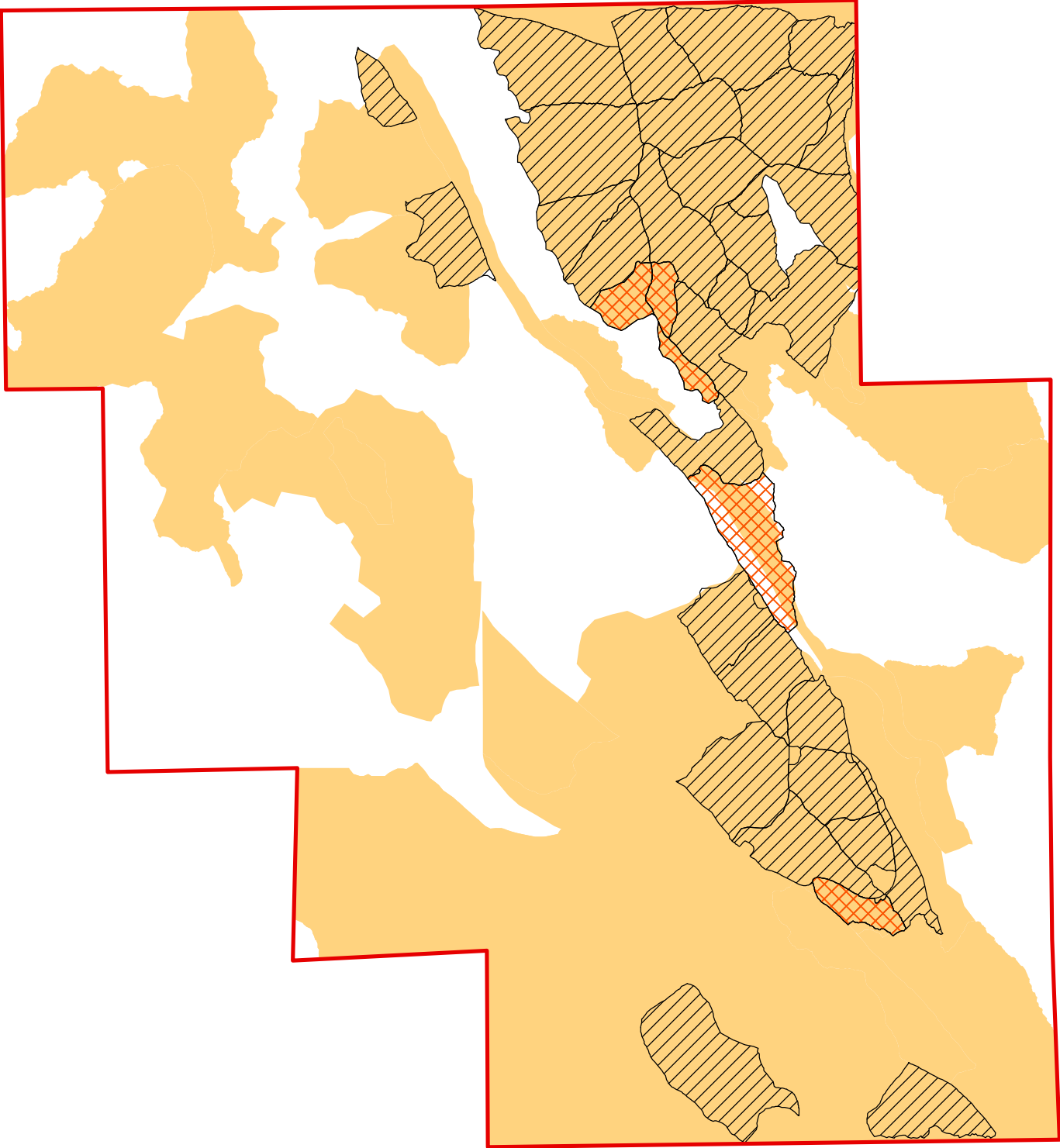


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# Bear Valley NWR Prescribed Fire Units







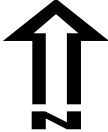
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## Legend

-  Refuge Boundary
-  Fuels Management Projects
-  Planned Prescribed Fire Units - 753 acres
-  Units Prescribed Burned 2005 - 70 acres



## **Glossary of Terms**

Boundary Protection - the process of removing and reducing hazardous fuels from and adjacent to an area defined as the boundary of a specified piece of land.

Hand Thin- fuels reduction by means of handheld power chain saws, human operated pole saws, prunners, clippers, loppers or other hand tools.

Hazardous Fuels - a combination of timber, shrubs, brush, grasses and similar natural products which when unmanaged pose a potential threat or risk to natural and built environments if exposed to wildfire.

Prescribed Burning - under specific conditions, fire is applied to predetermined areas to remove and reduce unwanted fuels such as brush, timber, grass and logging slash.

Roost - a place where winged animals rest or sleep.

Selective Logging - the process of selecting, marking and harvesting specific trees for a timber sale.

Slashbuster - a rapid spinning steel disk with teeth or spikes used to grind, tear and slash brush, trees and natural fuel litter into small pieces.

Slashbusting - fuels reduction by means of a mechanized "slashbuster".

Timber Sale - the authorized sale of timber products for the purpose of reducing hazardous and/or overgrown trees.

Wildfire - fire burning in a wildland area.

Wildland - an area consisting of natural landscapes, without built structures.

Wildland Urban Interface - an area where natural and built environments converge and/or coexist. The spread of fire is possible through natural fuels from one built structure to another.

## Sources

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Researched, compiled and assembled by Scott Swanson, for Klamath Basin National Wildlife Refuge Complex, Division of Fire Management.

All maps by Scott Swanson.

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